IN THE CLAIMS:

No Admission. The claims presented below are labeled pursuant to the request of the Patent and Trademark Office for convenience in examination. The cancellation of a claim or reference to a claim as "currently amended" is neither an admission nor an acknowledgement that the claim was altered for any reason related to patentability. None have been so altered.

1-15. **(Cancelled).**

16. **(Currently Amended)** A method of treating a human subject having a wound, ~~site-specific downregulation of connexin 43 protein expression for a therapeutic or a cosmetic purpose~~ which comprises administering to the wound a connexin 43 ~~at least one~~ anti-sense polynucleotide, whereby ~~to a~~ connexin 43 protein expression is downregulated~~to a site on or within a patient at which said downregulation is required~~.

17. **(Currently Amended)** A method of reducing ~~neuronal~~ cell death resulting ~~which would otherwise result~~ from a neuronal insult to a human subject, ~~specific site in the brain, spinal cord, or optic nerve of a patient~~ which comprises ~~the step of~~ administering to the site of the neuronal insult a connexin 43 ~~at least one~~ anti-sense polynucleotide, whereby ~~to a~~ connexin 43 ~~protein to said site to downregulate~~ expression is downregulated~~of a connexin protein at and immediately adjacent said site~~.

18. **(Currently Amended)** A method according to claim 17 ~~in which said anti-sense polynucleotide is administered to reduce neuronal loss due to physical trauma~~ wherein the neuronal insult is to the brain, spinal cord or optic nerve.

19. **(Currently Amended)** A method according to claim 17 in which said anti-sense polynucleotide is administered in a sufficient amount to downregulate connexin 43 expression ~~of said connexin protein~~ for at least 24 hours post-administration.

20. **(Currently Amended)** A method of promoting wound healing in a human ~~patient~~ which comprises the step of administering to the wound an amount of a connexin 43 ~~at least one~~ anti-sense polynucleotide effective to downregulate connexin 43 expression~~to a connexin protein to said wound to downregulate expression a connexin 43 protein at and immediately adjacent the site of said wound~~.

21. **(Currently Amended)** A method according to claim 16 or 20 in which the wound is the result of trauma.

22. **(Original)** A method according to claim 21 in which trauma is a burn.

23. **(Currently Amended)** A method according to claim 16 or 20 in which the wound is the result of a surgery.

24. **(Currently Amended)** A method of treating a human subject to reduce ~~reducing~~ inflammation associated with ~~as part of treating~~ a wound or associated with a tissue subjected to a physical trauma which comprises the step of administering to the wound or tissue an amount of a connexin 43 ~~at least one~~ anti-sense polynucleotide effective to downregulate ~~a~~ connexin 43 expression~~protein to, or proximate to, said wound or tissue~~.

25. **(Currently Amended)** A method according to claim 24 in which ~~said anti-sense polynucleotide is administered to reduce inflammation due to~~ the tissue subjected to physical trauma is selected from the group consisting of ~~to the~~ brain, spinal cord and ~~or~~ optic nerve.

26. **(Currently Amended)** A method of decreasing scar formation ~~in patient who has suffered~~ following a wound to a human subject which comprises ~~the step of~~ administering to the wound an amount of a connexin 43 ~~at least on~~ anti-sense polynucleotide effective to downregulate ~~a~~ connexin 43 expression~~protein to said wound to downregulate expression of a connexin protein at and immediately adjacent the site of said wound~~.

27-42 **(Cancelled)**

43. **(Previously Presented)** A method according to claim 16, wherein said anti-sense polynucleotide is an oligodeoxynucleotide.

44. **(Currently Amended)** A method according to any of claims 16, 17, 20, 24, or 26 ~~claim 16,~~ wherein said connexin protein comprises the amino acid sequence coded for by SEQ ID NO. 12~~a human connexin 43~~.

45. **(Currently Amended)** A method according to any of claims 16, 17, 20, 24, or 26 ~~claim 16,~~ wherein said anti-sense polynucleotide is present in a composition comprising ~~formulation together with~~ a pharmaceutically acceptable carrier or vehicle.

46. **(Currently Amended)** A method according to claim 45, wherein said composition ~~formulation~~ is suitable for topical administration.

47. **(Currently Amended)** A method according to claim 45, wherein said composition is formulated to provide sustained release of the antisense polynucleotide~~formulation contains polynucleotides to one connexin protein only~~.

48. **(Currently Amended)** A method according to claim 45, wherein said composition is formulated to provide sustained release of the antisense polynucleotide over at least 24 hours~~formulation contains polynucleotides to more than one connexin protein~~.

49. **(Currently Amended)** A method according to claim 44 ~~48~~, wherein the anti-sense polynucleotide is present in a composition comprising a pharmaceutically acceptable carrier or vehicle formulated for topical administration~~in which one of the connexin proteins to which polynucleotides are directed is human connexin 43~~.

50. (**Currently Amended**) A method according to claim 44 ~~48~~, wherein the anti-sense polynucleotide is in the form of an impregnated dressing ~~which includes polynucleotides directed to at least two of connexin 26, connexin 31.1, connexin 32, and connexin 36 and connexin 43~~.

51. (**Previously Presented**) A method according to claim 45, wherein the pharmaceutically acceptable carrier or vehicle is, or includes, a gel.

52. (**Previously Presented**) A method according to claim 51 in which the gel is a nonionic polyoxyethylene-polyoxypropylene copolymer gel.

53. (**Currently Amended**) A method according to claim 45, wherein the ~~formulation~~ composition further includes a surfactant ~~or urea to assist with polynucleotide penetration into a cell~~.

54. (**Previously Presented**) A method of decreasing cell death in a tissue of a mammal comprising contacting the cells with an effective amount of a connexin 43 antisense polynucleotide.

55. (**Previously Presented**) The method of claim 54, wherein said connexin 43 antisense polynucleotide is an oligodeoxynucleotide.

56. (**Currently Amended**) The method of claim 55 ~~54~~, wherein said oligodeoxynucleotide is an unmodified phosphodiester oligomer.

57. (**Currently Amended**) The method of ~~claim~~ any of claims 16, 17, 20, 24, 26 or 54, wherein said connexin 43 antisense polynucleotide binds to at least a portion of a connexin 43 mRNA.

58. (**Currently Amended**) The method of claim 57~~54~~, wherein said connexin 43 antisense polynucleotide is exactly complementary to at least a portion of said connexin 43 mRNA.

59. (**Currently Amended**) The method of claim 5754, wherein said connexin 43 antisense polynucleotide is not exactly complementary to at least a portion of a connexin 43 mRNA.

60. (**Currently Amended**) The method of ~~claim~~ any of claims 16, 17, 20, 24, 26 or 54, wherein said connexin 43 antisense polynucleotide is about 12 to about 40 nucleotides in length.

61. (**Currently Amended**) The method of ~~claim~~ any of claims 16, 17, 20, 24, 26 or 54, wherein said connexin 43 antisense polynucleotide is about 30 nucleotides in length.

62. (**Currently Amended**) The method of ~~claim~~ any of claims 16, 17, 20, 24, 26 or 54, wherein said connexin 43 antisense polynucleotide comprises SEQ ID NO: 1.

63. (**Currently Amended**) The method of ~~claim~~ any of claims 16, 17, 20, 24, 26 or 54, wherein said connexin 43 antisense polynucleotide comprises SEQ ID NO: 2.

64. (**Currently Amended**) The method of ~~claim~~ any of claims 16, 17, 20, 24, 26 or 54, wherein said connexin 43 antisense polynucleotide comprises SEQ ID NO: 3.

65. (**Previously Presented**) The method of claim 54, wherein said connexin 43 is a human connexin 43.

66. (**Previously Presented**) The method of claim 54, wherein said mammal is a human.

67. (**Previously Presented**) The method of claim 54, wherein said tissue is skin.

68. (**Currently Amended**) The method of claim 24 or 54, wherein said tissue is neural tissue.

69. (**Currently Amended**) The method of claim 24 or 54, wherein said tissue is brain.

70. (**Currently Amended**) The method of claim 24 or 54, wherein said tissue is spinal cord.

71. **(Currently Amended)** The method of claim 24 or 54, wherein said tissue is connective tissue.

72. **(Currently Amended)** The method of any of claims 54-56, 65, 66 or 67 ~~54-70 or 71~~, wherein said connexin 43 antisense polynucleotide is administered to a wound.

73 **(Previously Presented)** The method of claim 72, wherein said wound is a surgical wound.

74. **(Previously Presented)** The method of claim 72, wherein said wound is a burn.

75. **(Currently Amended)** The method of any of claims 54-56, 65, 66 or 67 ~~54-70 or 71~~, wherein said connexin 43 antisense polynucleotide is administered to a site of inflammation.

76. **(Currently Amended)** The method of any of claims 54-56, 65, 66 or 67 ~~54-70 or 71~~, wherein said connexin 43 antisense polynucleotide is disposed in a topical formulation.

77. **(Previously Presented)** The method of claim 76, wherein said topical formulation comprises a gel.

78. **(Previously Presented)** The method of claim 77, wherein said gel is a pluronic gel.

79. **(Currently Amended)** The method of any of claims 54-56, 65, 66 or 67 ~~54-70 or 71~~, wherein said connexin 43 antisense polynucleotide is administered by syringe.

Please add the following new claims:

80. **(New)** The method of any of claims 54-56, 58, 59 or 65-67, wherein said connexin 43 antisense polynucleotide is administered as a gel.

81. **(New)** The method of any of claim 57, wherein said connexin 43 antisense polynucleotide is administered as a gel.

82. **(New)** The method of any of claim 60, wherein said connexin 43 antisense polynucleotide is administered as a gel.

83. (New) The method of any of claim 61, wherein said connexin 43 antisense polynucleotide is administered as a gel.

84. (New) The method of any of claim 62, wherein said connexin 43 antisense polynucleotide is administered as a gel.

85. (New) The method of any of claim 63, wherein said connexin 43 antisense polynucleotide is administered as a gel.

86. (New) The method of any of claim 64, wherein said connexin 43 antisense polynucleotide is administered as a gel.

87. (New) The method of any of claim 68, wherein said connexin 43 antisense polynucleotide is administered as a gel.

88. (New) The method of any of claim 69, wherein said connexin 43 antisense polynucleotide is administered as a gel.

89. (New) The method of any of claim 70, wherein said connexin 43 antisense polynucleotide is administered as a gel.

90. (New) The method of any of claim 71, wherein said connexin 43 antisense polynucleotide is administered as a gel.

91. (New) The method of any of claims 54-56, 58, 59 or 65-67, wherein said connexin 43 antisense polynucleotide is administered as a dressing.

92. (New) The method of any of claim 57, wherein said connexin 43 antisense polynucleotide is administered as a dressing.

93. (New) The method of any of claim 60, wherein said connexin 43 antisense polynucleotide is administered as a dressing.

94. (New) The method of any of claim 61, wherein said connexin 43 antisense polynucleotide is administered as a dressing.

95. (New) The method of any of claim 62, wherein said connexin 43 antisense polynucleotide is administered as a dressing.

96. (New) The method of any of claim 63, wherein said connexin 43 antisense polynucleotide is administered as a dressing.

97. (New) The method of any of claim 64, wherein said connexin 43 antisense polynucleotide is administered as a dressing.

98. (New) The method of any of claim 68, wherein said connexin 43 antisense polynucleotide is administered as a dressing.

99. (New) The method of any of claim 69, wherein said connexin 43 antisense polynucleotide is administered as a dressing.

100. (New) The method of any of claim 70, wherein said connexin 43 antisense polynucleotide is administered as a dressing.

101. (New) The method of any of claim 71, wherein said connexin 43 antisense polynucleotide is administered as a dressing.